भारतीय मानक
Indian Standard

IS 13435 (Part 1) : 2021

एक्रिलिक पर आधारित पॉलिमर जल-सह सामग्रियाँ — परीक्षण पद्धति

भाग 1 ठोस अंश ज्ञात करना

(पहला पुनरीक्षण)

Acrylic Polymer Based Waterproofing Materials — Methods of Test

Part 1 Determination of Solid Content

(First Revision)

ICS 91.120.30

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भारतीय मानक ब्यूरो
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Water Proofing and Damp-Proofing Sectional Committee, CED 41

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Water Proofing and Damp-Proofing Sectional Committee had been approved by the Civil Engineering Division Council.

Acrylic polymers are now extensively used in the country for waterproofing and damp-proofing purposes. For evaluating the quality and performance characteristics of the product, standardized test methods are necessary to guide manufacturers and users of the product. Therefore, a series of standards on test methods for acrylic based polymer waterproofing materials was formulated.

This standard (Part 1) covers determination of solid content.

This Indian Standard is published in several parts. The other parts in this series are:

Part 2 Determination of coarse particles.

Part 3 Determination of capillary water take-up.

Part 4 Determination of *p*H value.

This standard (Part 1) was first published in 1992. This first revision incorporates the experience gained with the use of this standard and brings the standard in line with the latest developments in the field. In this revision of the standard, the following major modifications have been made:

a) The apparatus for the test procedure has been updated to replace tin plate lid and analytical balance with their modern substituents.
b) The sample size required for the procedure has been revised.
c) The temperature for carrying out the test and the duration of drying and cooling have been revised.
d) The final result is to be taken as the average of three test results.
e) The maximum deviation of individual test results from the final value has been specified.

While formulating the above standards the Committee has taken into consideration the facilities available in the country and the practice prevailing in other countries.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

ACRYLIC POLYMER BASED WATERPROOFING MATERIALS — METHODS OF TEST

PART 1 DETERMINATION OF SOLID CONTENT

(First Revision)

1 SCOPE

This standard (Part 1) describes the method of determination of solid content of acrylic based polymer waterproofing materials.

2 TERMINOLOGY

For the purpose of this standard, the following definition shall apply.

2.1 Solid Content — The solid content (non-volatile matter) in a product is defined as the percentage by weight that remains behind as residue after drying at elevated temperature under fixed condition.

3 APPARATUS

For determination of non-volatile matter, following apparatus shall be used:

a) Petri dish or porcelain crucible of 75 ± 5 mm diameter and at least 5 mm height.
b) Digital balance having an accuracy of 0.001 g.
c) Desiccator with calcium chloride or silica gel as desiccant.
d) Oven with thermostat capable of having temperature up to 160 ± 5 °C.

4 PROCEDURE

Following procedure shall be followed for the test:

Place, accurately weighed to the nearest 0.001 g, about 2 g of the sample to a clean pre- ignited and accurately weighed silica or porcelain crucible. Then place the crucible in an oven preheated, at 105 ± 2 °C, for a period of 2 h, to remove the liquid portion by evaporation. Remove the crucible from the oven, cool for 30 min in a desiccator, and weigh the crucible plus contents to the nearest 0.001 g. Repeat the drying process for 15 min each time, until the loss in mass between two successive measurements is less than 0.001 g.

The test shall be repeated for three samples.

NOTE — While taking the sample, the container shall be shaken well, to ensure a homogeneous sample.

5 RESULT

Percentage of solid content in the product may be obtained by the following:

where

$$\frac{W_2 - W}{W_1 - W} \times 100$$

W = Mass of crucible;
W_1 = Mass of crucible and sample before heating; and
W_2 = Mass of crucible and sample, after heating.

Three sets of values may be calculated and the average may be reported as the average percentage of solid content in the product.

NOTE — In case any individual percentage solid content values vary beyond 15 percent of the average value, the same shall be discarded. In such cases, the average of minimum 2 values shall be reported.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Water Proofing and Damp-Proofing Sectional Committee, CED 41

Organization	*Representative(s)*
In Personal Capacity (*Former ADG, CPWD F-33, Sector-39, Noida 201303*)	Shri Ajai Kumar Bhatnagar (***Chairman***)
Ahluwalia Contracts India Ltd, New Delhi	Shri Pradeep Kumar Shri J. S. Rawat (*Alternate*)
Assess Buildchem Private Limited, Navi Mumbai	Shri Sameer Surlaker Shri Sunny Surlaker (*Alternate*)
Association of Consulting Civil Engineers (I), Bengaluru	Representative
BASF India Ltd, Mumbai	Shri Jasvinder Singh
Builders' Association of India, Mumbai	Shri M. Karthikeyan Shri Sudip Kumar Dutta (*Alternate*)
Central Public Works Department, New Delhi	Shri M. K. Mallick Shri Divakar Agrawal (*Alternate*)
Construction Chemicals Manufacturers' Association, Mumbai	Shri M. A. Waheed Shri Gangadharan Manari (*Alternate*)
CSIR-Central Building Research Institute, Roorkee	Dr Sukhdeo R. Karade Dr P. C. Thapaliyal (*Alternate*)
Engineers India Limited, New Delhi	Shri Samir Das Ms Jyotsna Shridhar (*Alternate*)
Fosroc Chemicals (India) Pvt Limited, Bengaluru	Shrimati Nidhi Raina Shri Vamdev G. B. (*Alternate*)
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Indian Concrete Institute, Chennai	Shri Vivek Naik Shri Supradip Das (*Alternate*)
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Kasturi Projects Pvt Ltd, Thane	Shri Rajendra K. Pai
Lloyd Insulation (India) Limited, New Delhi	Shri Mohit Khanna Shri K. K. Mitra (*Alternate*)
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National Council for Cement and Building Materials, Ballabgarh	Shri B. Pandu Ranga Rao Shri Sanjay Mundra (*Alternate*)
Nina Waterproofing Systems Pvt Ltd, Mumbai	Shri Mehul Parik Shri Sudish M. S. (*Alternate*)

Organization	*Representative(s)*
Pidilite Industries Limited, Mumbai	Shri Imran Uddin Shri Jagdish Manori (*Alternate*)
Public Works Department, Govt of NCT of Delhi, New Delhi	Chief Engineer (North) Superintending Engineer (North) (*Alternate*)
Research Designs and Standards Organization, Lucknow	Director (Works) Shri Ashutosh Kumar (*Alternate*)
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The Institution of Engineers (India), Kolkata	Shri S. K. Dhawan
Ultratech Cement Limited, Mumbai	Representative
BIS Directorate General	Shri Sanjay Pant, Scientist 'F' and Head (Civil Engineering) [Representing Director General (*Ex-officio*)]

Member Secretary

Shrimati Divya S.
Scientist 'C' (Civil Engineering), BIS

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